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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/074,660 | 02/13/2002 | Gene R. Hawkins | DP-306261 | 6085 |

7590 02/19/2003

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EXAMINER

JULES, FRANTZ F

ART UNIT

PAPER NUMBER

3617

DATE MAILED: 02/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

| Offic Action Summary | Application No. | Applicant(s) |
|-----------------------------|------------------------|---------------------|
| | 10/074,660 | HAWKINS ET AL. |
| Examiner | Art Unit | |
| Frantz F. Jules | 3617 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Office Action Summary

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on _____.
2a) This action is **FINAL**. 2b) This action is non-final.
3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-20 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-20 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) Notice of References Cited (PTO-892) 4) Interview Summary (PTO-413) Paper No(s). _____
2) Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) Notice of Informal Patent Application (PTO-152)
3) Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) Other: _____

DETAILED ACTION***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 14- 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Wierzchon (US 6,125,526).

Claims 14-20

Wierzchon teaches all the limitations of claims 14-20 by showing in fig. 4 a vehicle wheel stud (32) including a first portion (46) having wheel-bearing-engaging first external threads (28) and including a second portion (42) having wheel-nut-engaging second external threads, wherein the first portion (46) has a first diameter at the first external threads, wherein the second portion has a second diameter at the second external threads, wherein the first diameter is larger than the second diameter as seen in fig. 4, wherein the first portion has a bolt head (36), wherein the first external threads (28) are disposed between the bolt head (36) and the second external threads (42), wherein the bolt head (36) has a portion having a diameter larger than the first diameter (of portion 46), wherein the first external threads (28) are left handed threads as disclosed in column 3, lines 8-15, and wherein the second external threads are right-handed external threads.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kenssen et al (6,036,370) in view of Wierzchon.

Claims 1-5

Kenssen et al teach all the limitations of claims 1-5 by showing in fig. 1 a vehicle wheel bearing comprising a vehicle –wheel-bearing non rotatable section (22), a vehicle-wheel-bearing rotatable section (12) rotatably attached to the non-rotatable section, wherein the rotatable section has a hole (21), a wheel stud (20) including first and second portions, wherein the first end portion has external thread, and wherein the second end portion has a wheel nut.

The rotatable section (12) is a wheel-bearing spindle, the non-rotatable section (22) is a wheel bearing hub as required by claims 2, 6.

The rotatable section (12) includes a flange (18) having an inboard and an outboard side (18B, 18A), wherein the flange has a through hole (21), wherein the first portion of the wheel stud has a bolt head (20A) which is disposed inboard side of the inboard side (18B) of the flange as required by claim 3.

Kenssen et al disclose all of the features as listed above but does not disclose a vehicle wheel bearing assembly having a rotatable spindle with internal threads in a hole including a wheel stud having first left-hand external threads on larger diameter and

second right-hand threads on a smaller diameter. The general concept of providing a member with internal thread in a hole of a flange member to receive a stud having first left-hand external threads on larger diameter and second right-hand threads on a smaller diameter is well known in the art as illustrated by Wierzchon which discloses a flange member (20) with internal threads (26) in a hole to receive a stud (32) having first left-hand external threads (28) on larger diameter and second right-hand threads (42) on a smaller diameter, see fig. 4, col. 2, lines 36-41, column, 3, lines 8-15. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Kessen et al to include the use of a rotatable spindle with internal threads in a hole of the spindle including a wheel stud having first left-hand external threads on larger diameter of the stud and second right-hand threads on a smaller diameter of the stud in his advantageous vehicle wheel bearing as taught by Wierzchon in order to prevent loosening of the wheel stud during vehicle operation while reducing manufacturing cost of the wheel bearing assembly.

5. Claims 7-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kessen et al (6,036,370) in view of Wierzchon.

Claims 7-13

Kenssen et al teach all the limitations of claims 7-13 by showing in fig. 1 a vehicle wheel bearing comprising a vehicle -wheel-bearing non rotatable section (22), a vehicle-wheel-bearing rotatable section (12) rotatably attached to the non-rotatable section, wherein the rotatable section has a hole (21), a wheel stud (20) including first and

second portions, wherein the first end portion has external thread, and wherein the second end portion has a wheel nut.

The rotatable section (12) is a wheel-bearing spindle, as required by claims 9, 13.

The rotatable section (12) includes a flange (18) having an inboard and an outboard side (18B, 18A), wherein the flange has a through hole (21), wherein the first portion of the wheel stud has a bolt head (20A) which is disposed inboard side of the inboard side (18B) of the flange as required by claim 10.

Kenssen et al disclose all of the features as listed above but does not disclose a vehicle wheel bearing assembly having a rotatable spindle with internal threads including a wheel stud having first left-hand external threads on larger diameter and second right-hand threads on a smaller diameter. The general concept of providing a member with internal thread to receive a stud having first left-hand external threads on larger diameter and second right-hand threads on a smaller diameter is well known in the art as illustrated by Wierzchon which discloses a member (20) with internal threads (26) to receive a stud (32) having first left-hand external threads (28) on larger diameter and second right-hand threads (42) on a smaller diameter, see fig. 4, col. 2, lines 36-41, column, 3, lines 8-15. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Kessen et al to include the use of having a rotatable spindle with internal threads including a wheel stud having first left-hand external threads on larger diameter and second right-hand threads on a smaller diameter in his advantageous vehicle wheel bearing as taught by Wierzchon in order to prevent

loosening of the wheel stud during vehicle operation while reducing manufacturing cost of the wheel bearing assembly.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Tanaka et al, Loffler are cited to show related fastening system having a stud having left handed thread and right handed threads on a smaller diameter.

Oliver is cited to show related wheel stud having a larger diameter and external thread on a small diameter.

McCalla and Adler et al are cited to show related vehicle wheel bearing having spindle with a hole receiving a stud.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frantz F. Jules whose telephone number is (703) 308-8780. The examiner can normally be reached on Monday-Thursday and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph S. Morano can be reached on (703) 308-0230. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7687 for regular communications and (703) 305-7687 for After Final communications.

Art Unit: 3617

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.

Frantz F. Jules
Examiner
Art Unit 3617

FRANTZ F. JULES
PATENT EXAMINER

FFJ

February 9, 2003

